

IN THE SPECIFICATION

Please amend the paragraph within the specification beginning page page 13, line 26 with the following:

According to the invention, the input vectors to be used for training are full facial images, for example the facial images 30 shown in Figure 2, each comprising a size of 64 x 72 pixels, for example. According to the invention, a single classifier (RBF network 10, is trained with these full images. However, during actual testing, different proportions of the test image are tested against different proportions of the model. For instance, step 2 of the classification algorithm depicted in Table 2, is an iterative process that performs a subtraction of the unknown test image with a different portion of the learned model in each iteration. Training is on a full face a full image and an X_{test} (full image) may be input at the first iteration. A first output score is obtained, which includes a confidence (probability) measure, e.g., as illustrated as step 2(c) in Table 2, having a value between 0 and 1, and a label identifying the class label (learned model). At each iteration, these steps are repeated each time using a different percentage of the image, i.e., portions of the learned model. For example, in a next iteration, a smaller portion of the unknown image, e.g., 90%, may be compared against the corresponding 90% of the learned model image for each class, and so on. As a result of each comparison, a further a confidence (probability) measure and a label identifying the class (learned model) is determined by the classifier device. Thus, as indicated in Table 2, the whole of step 2(a) is in a loop with the process repeated any number of times depending upon the number of proportions desired. For example, as selectable by a user, the X_{test} image portions utilized may range from maximum (e.g., 100% of the full image) to minimum (e.g., 50% of the full image) at a 10% or 5% portion reduction at each iteration. As described in commonly-owned, co-pending U.S. Patent Application No. 09/966,436 (~~Attorney Docket 702052, D#14900~~) entitled SYSTEM AND METHOD OF FACE RECOGNITION THROUGH $\frac{1}{2}$ FACES, the whole disclosure and contents of which is incorporated by reference as if fully set forth herein, when the minimum image is used, i.e., 50%, it is imperative that at least one eye, $\frac{1}{2}$ the nose and $\frac{1}{2}$ the mouth of the facial image be captured, e.g., a vertical proportion of the image. The granularity of the portion

reduction at each iteration may be a user selectable option and may depend on how good that data is and the computation cost consideration. It should be understood that a trade-off exists between the performance and cost. For instance, depending upon the level of security desired, i.e., the more secure the application, the finer granularity of proportion reduction at each iteration, and the greater number of comparisons will be performed at greater cost. For the case of 100% to 50% in with 10% image reduction proportions at each step there will be a total of six (6) confidence scores and class labels, whereby with 5% image reduction proportions at each step there will be a total of twelve (12) for each class. After the scores have been accumulated, rules may be applied to determine the class for the test image. For example, the scores may be combined to arrive at a consensus decision. One simple class may be majority rule however, more sophisticated rules may be applied, e.g., such as described in the reference to J. Kittler, M. Hateg, and R.P.W. Duin entitled "Combining Classifiers," Proc. Of the 13th International Conference on Pattern Recognition, II: 897-901, Vienna, Austria, August 1996, the contents and disclosure of which is incorporated by reference herein. For example, each proportion classified will generate a vote and if ten (10) proportions are used, 10 votes would be obtained. Then, a majority decision voting rule simple voting rule (e.g., if six (6) out of ten (10) are for "A" then the identity of the subject is "A") is used to ascertain the identity of the individual (class). In response, multiple votes are generated and, in the classifier, as shown in Figure 1, a selection device 28 is provided with logic for applying voting rules to arrive at an appropriate decision.